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ISS phone home!

Technology connects Space Station residents to JSC phone system

We're really enjoying it and getting a lot of use out of the Softphone.

- Jim Voss, pictured at right with the Softphone

By Eric Raub

Recently Steve Schadelbauer picked up the phone and had a brief chat with someone wanting to thank him for the work he did on a special project.

This was no ordinary call though.

The voice on the other end of Schadelbauer's line was current International Space Station resident James Voss. Voss wanted to thank Schadelbauer, an engineer at JSC, for helping make the phone he was using a reality.

Softphone, though not critical to keeping the outpost in orbit, has already become a luxury the crew would rather not live without.

"We're really enjoying it and getting a lot of use out of the Softphone," Voss said in a voicemail message left for Brett Parrish, another JSC engineer who also worked on the project. "Thanks a lot... It's great to have it on board."

The Softphone makes calling someone from orbit as easy as placing a call from any desk at JSC. Donning a headset plugged into their laptops, the astronauts can do something once confined to the realm of science fiction.

Now, local, long-distance and international are no problem for the system. To

reach anyone with a JSC extension, the ISS crew need only dial a five-digit extension. If they want to call someone outside the center they must first dial nine.

This is a major revolution in the way people in space communicate with those on Earth. For decades the only way to communicate with astronauts was via radio, which has several limitations and relatively low signal quality. Only the privileged Capsule Communicator (CAPCOM) was able to remain in contact with astronauts. Limitations existed on where—or even when—the astronauts' families could talk with them over the old radio system.

"In the past the CAPCOM was the one that talked to the astronauts and that was it—period," Parrish said. "There were a few exceptions like flight surgeons, the President or the family in a protected room. Now it's as comfortable as calling from the office, which is something we take for granted. But if you're in a tin can for six months, it's a long time to go without talking to your kids

or your spouse."

Now the astronauts can call home every night to ask their family about their day, the weather or whatever they want to talk about. "We can do pretty much anything you see, communication wise, in science fiction movies," Parrish said. "In '2001: A Space Odyssey,' Dr. Floyd makes a call home from a station in flight by dialing at will from a phone booth...It cost Dr. Floyd \$1.70, the astronauts get it for free."

Interestingly enough, the extension for the first unit on STS-98 was 2001.

The phone is the realization of the dreams of many people. Cisco Systems updated the phone system for communications operations on the ground like those within the Mission Control Center and

between certain directorates. As a nice extra, Cisco offered to reengineer their software phone program Softphone.

The Softphone's program design needed work to be able to survive the NASA satellite network. The network sometimes requires signals to be bounced around for tens of thousands of miles before reaching their target—in this case the ISS.

Technical problems arose involving signal delay and the inability of the Shuttle and ISS communication systems to carry IP "packets" of information. Cisco engineers revamped their program, free of charge, until it could handle all of the difficulties. Cisco's press release on the accomplishment bore the title "The first 90,000 miles are toll-free."

Astronaut Marsha Ivins was one who pushed for the phone system's development since she first tested the unit onboard the shuttle during the STS-98 mission. When everyone realized the success and capability of the system, the phone made about 20 more "test" calls before the orbiter returned.

When word spread that the phone not only worked but worked well, the next step became making it a permanent feature of the ISS. Voss and fellow astronaut Susan Helms became what Parrish described as "technology evangelists" until mid-May, when the ISS finally got what so many people take for granted—a phone.



Just-the-FACTS

- The phone is based on a computer program called "Softphone" modified to work with existing communication links.
- The program is loaded onto the astronauts' laptops, and headsets are plugged in to talk and listen.
- The phone works like any phone at JSC—local, long-distance and international calls are no problem.
- The phone is fully duplex, with no need for saying "copy" or "over."
- The sound quality is better than radio frequency.
- High-quality music can also be sent through the same system.
- While the ISS residents can call anyone, the ISS Softphone can only receive calls from Mission Control.

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Patty Robertson
dies.
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**Family ties
at Johnson
Space Center.
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**Three
win
Telly Awards.
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INFO TO KNOW

A letter from the
Information
Systems
Directorate

Tackling the job of replacing nearly 14,000 telephones across the Center was a daunting one for the Information Systems Directorate (ISD). However, the OAO and Siemens' implementation of the Center's new phone system is nearing a successful completion, with only a few clean up activities and the removal of the old Rolm system remaining. The Rolm system will be removed sometime during the middle of June.

Many users at JSC liked the features of the old Rolm system and were well acquainted with its capabilities. The system served the Center well for nearly 15 years. What most were not aware of, however, was how unreliable the system was becoming. Parts were becoming impossible to find. It was nearing the end of its useful life. *On the new system—even during periods of peak activity associated with major activations—the rate of trouble calls is significantly less.*

The willingness of JSC civil servant and contractor personnel to work with ISD during the changeover period played a significant role in the ultimate success of this conversion. Implementing the new system took an orchestrated effort between Center personnel (including facility managers, CTS coordinators and security personnel), ISD, OAO, Siemens and their subcontractor IDEX.

The result was a good one: A new, more reliable, phone system—one that provides JSC with a more robust system with potential for even more capability in the future.

Now fully functional, the new telephone system gives JSC a nonproprietary digital system equipped with a whole host of features, like call forwarding, redialing, speakerphone and conference call capabilities. It also provides a new voice mail system that gives every user onsite voice mail—something that many users were without.

Additionally, the arrival of the new system brings with it new local area network cabling that will allow desktop computer users to take advantage of increased bandwidth as the Center network upgrade progresses. And, since the new telephones can be reconfigured by a software download technique, in most cases, moves and changes can now be done without a technician visit.

For more information or questions, contact the ISD Customer Support Office at (281) 483-4716. For problems with the new phone, be certain to contact the Help Desk at (281) 483-4800, or users can access an electronic users guide at <http://jsc-bbs.01.jsc.nasa.gov/CTSINFO/default.htm>.

Thank you JSC for your support.

Managers delay future launches



The launch of STS-104 is now targeted for no earlier than July 12. The change in launch date will give the managers more time to address problems with the International Space Station's new robot arm, Canadarm2. The station's arm will be used to lift STS-104's primary cargo, the Joint Airlock, out of the *Atlantis* payload bay and attach it to the station. Because of the delay, STS-105 will launch no earlier than early August.



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Technology connects Space Station residents to JSC phone system

However, the phone, as well as other advanced communication capabilities, could not exist without the help of the Orbiter Communication Adapter (OCA). The name is now something of a misnomer, since the little computer card and routing equipment have revolutionized data transfer, networking and communications with vehicles in orbit.

The OCA "tricks" old NASA satellite links into thinking they are a modern Ethernet network, just like the one linking all of the computers together at JSC.

The OCA can be built into almost any communication system, and can serve as a relatively inexpensive basis for communication systems that used to cost millions. The OCA team expects to have as many as

75 of their custom-built cards ordered. As long as their work makes things like the IP phone possible, Schadelbauer, Parrish and the rest of the OCA team plan to continue improving the system and giving it more capability.

"It's an ongoing, continually improving project," Parrish said.

"We've got a card with a new data interface that will allow data to travel 10 times faster. We could possibly send them DVD movies or High Definition TV."



NASA JSC 2001e18080 photo by James Blair
The Softphone was made possible by the Orbiter Communications Adapter team, pictured here. Front row from left is Hector Deleon, Bao Bui and Bob Villarreal. Back row from left is Brett Parrish, Gene Gribbin and Steve Schadelbauer.

Local student named one of seven NASA College
Scholarship Fund recipients

The objective is to help ensure that a few of today's gifted high school students become some of tomorrow's leading scientists and engineers. That's just what some students—including one from Clear Brook High School in Friendswood—are well on their way toward achieving thanks to some assistance from the NASA College Scholarship Fund, Inc.

Nicholas Singhal, son of NASA Johnson Space Center employee Anil Singhal, has been named one of seven recipients nationwide of this year's NASA College Scholarship Fund. Scholarships were awarded in the amount of \$2,000 each. The scholarship is renewable annually for a maximum of \$8,000 over six calendar years.

A recent graduate of Clear Brook, Nicholas will attend Washington University in St. Louis, Mo., in the fall. He plans to study biology.

"I am very happy that the NASA College Scholarship Fund chose me for this award," he said. "I will continue to work hard at Washington University and hope to pursue a medical career in the future."

"Nicholas is a very good athlete

and actively participated in various extracurricular activities at Clear Brook, but he remained focused on his academic objectives," said Anil Singhal, Operations Integration Manager, International Space Station Avionics and Software Integration Office.

Applications were restricted to dependents of NASA employees who are planning to major in science or engineering. "All NASA centers across the nation were well represented among the candidates with 85 eligible applications received. All had exceedingly high grade point averages, high Scholastic Aptitude Test scores and were actively involved in their community," said Karl Schuler, president of the NASA College Scholarship Fund, Inc.

Other winners of this year's NASA College Scholarship Fund are Linda Hung, daughter of Ching-cheh Hung of the Glenn Research Center, Cleveland, Ohio; Sarah Zaman, daughter of Dr. Khairul Zaman of the Glenn Research Center; Christopher Malow, son of Deborah Malow of the Glenn Research Center; Bobbie Chern, son of Engmin Chern of the Goddard Space

Flight Center, Greenbelt, Md.; Swati Saini, daughter of Subhash Saini of Ames Research Center, Moffett Field, Calif.; and Jyothi Natarajan, daughter of Murali Natarajan of Langley Research Center, Hampton, Va.

"On behalf of the Board, we appreciate all the interest in the NASA College Scholarship Fund," said Greg Hayes, chairman of the Board of Directors.

"This scholarship program takes an active interest in our young people and is another way we're promoting higher education across NASA."

The NASA College Scholarship Fund, Inc., a Texas nonprofit corporation, was established to award scholarships agencywide to qualified dependents of NASA and former NASA employees. The fund was established as the direct result of a substantial unsolicited gift by the noted Pulitzer Prize-winning author James A. Michener. Many NASA employees have contributed to the fund directly or through the Combined Federal Campaign. Other major contributors include the Freedom Forum and the JSC Chapter of the NASA Alumni League.

Center mourns the loss of Astronaut Patty Robertson

NASA Astronaut Patricia Hilliard Robertson died Thursday, May 24, as a result of injuries obtained in the crash of a private plane on the afternoon of May 22. She was 37.

Robertson was a member of the Astronaut Class of 1998 and was assigned as a Crew Support Astronaut for the Expedition Two crew presently on board the International Space Station. In that role, she served as an interface between the Mission Control Center Flight Control Team and the Astronaut Office on issues related to the Expedition Two crew and, along with other astronauts, coordinated activities on the ground for the three crewmembers in space.

When the Expedition Two crew was told of Robertson's passing, they were deeply saddened. While they were offered some time off from their daily schedule, the crew chose to honor Robertson by continuing their work in space.

In 1995 Robertson was one of two fellows selected to study aerospace medicine at the University of Texas Medical Branch (UTMB), Galveston, and at JSC. While enrolled as a Space Medicine Fellow, Robertson completed a research project where she studied eccentric and concentric resistive exercise countermeasures for space flight. Robertson also served as a member of the faculty at UTMB in the Departments of Family Medicine and Emergency Medicine.

In 1997, she joined the Flight Medicine Clinic at JSC, where she provided health care for astronauts and their families, and served as Chairman of the Bone, Muscle and Exercise Integrated Product Team.

She was a multiengine rated flight instructor and avid aerobatic pilot. She had accumulated over 1,500 hours of flight time.

Selected by NASA as an Astronaut in June 1998, Robertson reported for training in August 1998. Her technical assignments included serving as the office representative for the Crew Healthcare System (CHCS), and as Crew Support Astronaut (CSA) for the ISS Expedition Two Crew.

Flags at JSC were flown at half-staff May 25 in her honor and a memorial service was held at Ellington Field on May 29. ■



NASA JSC 99e00996 photo by David DeHoyos



Astronaut Patricia Hilliard Robertson, pictured here, died May 24 as a result of injuries obtained in a private plane crash. Above are items special to Robertson that were displayed at her memorial service at Ellington.

NASA JSC 98-15782



NASA JSC 2001e17808 photo by David DeHoyos



Seventh-grade students in the Clear Creek School District's Science Magnet Program at Seabrook Intermediate School are shown with the Solar Go-Cart they designed and built as part of their Future Think science elective class. JSC Engineer Mike Ewert and Science Department Head Sally Muir, along with the students and other NASA engineers, spent two weeks designing and six weeks building the cart. This partnership is in its second year and is one of many that the Science Magnet Program and CCISD enjoy with JSC.

Did You Know?

The International Space Station is orbiting at 250 miles above Earth.



EXPERIMENT CORNER

Expedition II Science Experiments



CGBA - Commercial Generic Bioprocessing Apparatus Express Rack 1

Help researchers understand why and how microgravity might increase the production of antibiotics. The data could be used to develop better antibiotics here on Earth, as well as increase their production. Delivered during STS-100/6A in April 2001. Flown on 18 shuttle flights and twice on Mir.

More CGBA info:
Expedition Two press kit, p. 11

EarthKAM - Earth Knowledge Acquired by Middle Schools

Destiny Lab enables students in grades six through eight to take photos of the Earth via a remotely controlled camera mounted on a window of the space station. Delivered to the station during STS-98/5A in January 2001.

More EarthKam info:
<http://spaceflight.nasa.gov/station/science/experiments/earthkam.html>

CPCG - Commercial Protein Crystal Growth - Express Rack 1

Uses the microgravity environment aboard the space station to grow large, high-quality protein crystals that will be returned to Earth for study. Researchers believe these crystals will help them learn more about various diseases and how to best treat them. Delivered during STS-100/6A in April 2001.

More CPCG info:
<http://spaceflight.nasa.gov/station/science/experiments/cpcgh.html>

DOSMAP - Dosimetric Mapping - ISS

Consists of four different types of radiation detectors located throughout the station that measure the amounts and types of radiation that enter the ISS. The data will be used to develop countermeasures to protect astronauts on future long duration missions. Delivered during STS-102/5A.1 in March 2001. One of three radiation experiments being flown on ISS during Expedition Two. Also flown on 10 previous shuttle flights.

More DOSMAP info:
Expedition Two press kit, p. 14
<http://spaceflight.nasa.gov/station/science/experiments/dosmap.html>

EXPPCS - Physics of Colloids in Space - Express Rack 2

Colloids are fine particles suspended in a fluid - paint, milk and ink are three examples. Researchers are studying how colloids form in space to better understand their physical structures and use that information for the manufacture of new materials and products. Delivered during STS-100/6A in April 2001. Precursor experiments flown on Mir and shuttle.

More EXPPCS info:
Expedition Two press kit, p. 19

For more details, please read the Expedition Two press kit at:
http://spaceflight.nasa.gov/station/crew/exp2/exp2_presskit.pdf

Family Ties

Dads making a path for families to follow

By Julie Burt

As a child, Sara Hyde wondered why her dad always brought out-of-town guests to JSC, which was then the Manned Spacecraft Center. "I never quite understood what all the excitement was about NASA," Hyde said. "To me it was just where my dad always worked."

Her dad, Robert G. Brown, began working here in 1963 and was a procurement officer. He retired in 1990, one year after she began working for United Space Alliance/Rockwell. Her sister, Mary Bulot, now works for Raytheon.

"When dad worked here, on occasion I would go in Bldg. 17 and get a chance to visit with him and his 'people,'" Hyde said.

He had seen much, working here during Apollo, Shuttle and everything in between, said Hyde.

"Now that we have the International Space Station going I can relate to the excitement that he showed to me all these years. I would have never thought, growing up, that I would be working here. I finally realize what all the excitement is about."

The Iven family—Clem Iven and his wife, Mary Helen, along with their three sons—have totaled nearly 100 years employment within JSC/NASA contracts.

"Our family values are greater because we have more in common and actually spend more time together," Mary Helen said.

Clem has been a NASA contractor employee since January 1964, when he transferred to Houston from Lockheed Missiles and Space Company in Sunnyvale, Calif. He is currently the Project Lead at Space Flight Training and Facility Operations in Bldgs. 5 and 9.

Lockheed Martin has employed his wife, Mary Helen, for the past 29 and a half years. She works in the Lockheed Martin central reproduction facilities. Their

sons also work in the space program: Bobby for Lockheed Martin and both Bernie and Thomas for Oceaneering. Two daughters-in-law actually worked onsite for a short time, as well.

"With each member of the family working in a different area—we feel a bit of each of us on every flight,"

Mary Helen said. "Our sons have built hardware for almost every flight since their employment with JSC. It is with great pride when they see any component they've built being used during a flight."

The members of the Candler family are relative newcomers to the space program, but they have no less pride than those that have been here for decades. Steve Candler began work in the Bldg. 8 photography lab in 1993.

He is currently the Technical Monitor of the Engineering Drawing Control Center. His wife, Bobbie, began in 1997 and works in the ISS Program Library. Their daughter, Amanda, is the newest addition to the

NASA family. She started working as a library assistant in the Science and Technical Information Center last year. "Now we're just waiting for my 12-year old sister to join us," Amanda said with a smile.

"I feel very honored to work here," Amanda said. "I know that my job isn't that important, but...I keep thinking that an engineer has come in looking for a book about welding, or physics or the pressure in the shuttle cabin and in some way I helped him or her solve a problem that is in some way making the space program better, more efficient or safer."

Her dad shares her pride. "Amanda has many high-quality role models surrounding her," he said.

He hopes his daughter will be inspired by these role models, but adds, "perhaps these folks will be inspired by Amanda's artistic abilities and see life through her color of glasses."

Finally, David Carraway and Kacy Carraway Kossum help keep JSC going both internally and externally. David Carraway started here in September of 1996. He is employed by Kelsey-Seybold as an Aerospace Physiologist in the Human Test Support Group (HTSG).

The HTSG provides medical support for all manned tests at JSC as well as supporting the diving operations at the Sonny Carter Training Facility/Neutral Buoyancy Laboratory on a daily basis.

Kossum works in Public Affairs

as the Newsroom Coordinator. "On the front line," said her Dad, "public image is very important."

The two have very different jobs, yet they both work to make sure that the Shuttle missions run smoothly.

"I watch astronauts train in the water for months preparing for a mission," Carraway said. "When the mission finally gets here, I can see the success of my participation in the space program as our guys perform flawless EVAs during flight. I like to think that I helped make that happen and I believe I did."

Kossum supports the newsroom during missions. She arranges astronaut interviews before and after flight and provides a record of astronaut and mission statistics for the press and the public. She interacts with the public everyday fielding calls and answering questions.

Carraway added: "I never in my wildest dreams expected to be working for NASA, and to have Kacy here with me is beyond words. Not only do we have great jobs, we get to interact on a professional level, which makes being a part of NASA even more pleasing."

Kacy explains that her dad is a source of information for her.

"My father works on the training end of things, so I get a different perspective on NASA events and what it takes to prepare for a flight. Plus, he's a contact. If I have a question about the NBL or something that goes on there, I know who to ask."

She then added: "And he can't refuse to help me, because I know where he lives." ■



NASA JSC 2001e11813 photo by Bill Stafford
Steve Candler is in good company at JSC with his daughter Amanda, left, and his wife Bobbie.



Kacy Carraway Kossum gave her father, David Carraway, a kiss at her wedding. The father and daughter both work at JSC.

Father's Day is June 17

Gone but not forgotten

JSC employee dedicates award to father

By Eric Raub

Christine McDonough has faced some rough times during her 22-year career at JSC.

When her father died 12 years ago, she not only lost a loving parent but she also lost her transportation to work. Yet, neither setback kept her away.

She has a job to do as an Astronaut Office mailroom clerk, and has kept doing it no matter the difficulties. That dedication was recently recognized when she was named the Outstanding Disabled Civil Servant of the Year by the Houston Area Federal Business Association.

"I was very happy to win that award," McDonough said. "It was the biggest milestone of my life. I just feel so overwhelmed by it still that I was chosen. It means the world to me, but I couldn't have done it without my father. He brought me here to JSC and I dedicate this to him."

The Houston Area Federal Business Association's Civil Servant of the Year award has many categories. Awards

are given for scientific research, length of service and even for heroic acts. Previous winners from different categories include former astronaut Donald K. "Deke" Slayton and Equal Opportunity Programs Office Director Estella Hernandez Gillette.

Astronaut pictures, mission patches and lithographs travel all around the world. Chances are good that at one point, many of those items have passed through McDonough's hands. The capability she has shown performing this and other duties earned her the award and put her in prestigious company.

McDonough

has been a clerical assistant in the Astronaut Office for more than two decades. In her position she delivers verbatim phone messages and maintains an excellent rapport with all of the current and former astronauts.

She is also responsible for distributing much of the astronaut and mission material that is found throughout the center, the surrounding community and around the world. Whenever the call comes for patches, pictures or decals, McDonough is more than happy to deliver.

"She is very detail oriented," Gillette said. "When she is asked to perform a task, she pursues every avenue to complete the task

at hand...Her dependability and attention to detail in her work, work that others might find tedious, make her a real asset to the Astronaut Office and the Johnson Space Center."

However, the straw that probably broke the camel's back for McDonough's competition is her 20-plus years of dedication in just getting to work. McDonough does not drive, yet somehow she always finds a way to get to work.

For more than two decades, she has busied, taxied and carpooled her way to the office all the way from Pasadena. She has drained her leave and her pocket-book in a seemingly never-ending search to find a way to JSC.

Transportation costs can run McDonough \$20 dollars a day, but it doesn't stop her.

"There are some days when we don't want to come into work," McDonough said.

"We all have those days. But when I think about the guys and gals—the astronauts—it causes me to come in...It's like another world out here." ■

"It was the biggest milestone of my life. I just feel so overwhelmed by it still that I was chosen. It means the world to me, but I couldn't have done it without my father. He brought me here to JSC and I dedicate this to him."

- Christine McDonough

NEWS FROM WHITE SANDS

John Griffin and his crew lead testing of the Improved Auxiliary Power Unit for the Space Shuttle Orbiter

This is the first in a series of articles on the men and women who support the Space Shuttle at the White Sands Test Facility.

By Cheerie R. Patneau

John Griffin has been checking his Improved Auxiliary Power Unit (IAPU) every weekday morning and afternoon for the past five years.

He walks out of the 300 Area Propulsion Engineering Building at the White Sands Test Facility (WSTF) and out across the paved area to the test stand where the system resides. As the IAPU project leader for Honeywell Technology Solutions Inc., Griffin writes safety procedures to ensure the well-being of his crew and the system. The crew takes pride in the safety of the system and boasts no injuries or damage in the past six years.

The Space Shuttle Orbiter IAPU is a hydrazine-fueled gas turbine that provides power to a hydraulic pump, which in turn generates the hydraulic energy required for

throttling the main engine valves. The IAPU also:

- **Operates the main engine vector control**
- **Moves and controls aerodynamic surfaces, such as the elevons, rudder and speedbrake, and body flap**
- **Operates the external tank umbilical plate retraction actuators**
- **Deploys the landing gear**
- **Steers the nose wheel**
- **Brakes the landing gear wheels**

There are three IAPUs installed on each orbiter.

The IAPU sits in Test Stand 303 and undergoes simulated environment testing, which includes not only space environments but also the humid, salty air of the Kennedy Space Center. These effects on the IAPU are studied for the safety of the shuttle and its crew.

"The IAPU Program is, in effect, an effort to increase the reliability and maintenance of the APU, and to extend the lifetime of the IAPU," Griffin said. "The IAPU is removed and serviced after 50 hours of use on the Shuttle. We are

working on extending the IAPU lifetime to 75 hours, which will reduce costs and safety concerns."

The importance of the IAPU should not be underestimated. "The name IAPU is a misnomer and a carryover from the military where the IAPU system is an auxiliary one," Griffin said. "For the Space Shuttle, however, it is the primary hydraulic system."

The crew members of the IAPU are: Raul Estrada, Coye Wallace, Leo Hernandez, Robert Robinson, Matt Cover, Helm Zander, Rachael Aguirre, Joe San Filippo, Jim Douglas, Tim Blowers, Gary Cruz, Geraldo Mendoza, Brian Galvan and Darwin Peebles.

In addition to paying attention to the wear and tear on the IAPU, Griffin is looking at a new electric APU (EAPU), which will be battery operated.

"Hydrazine is toxic and explosive," Griffin said. "The EAPU will be safer with no gases, no leaks and a smaller risk mitigation."

Griffin thinks his job as Project Leader is interesting. He said his team enjoys their

work and finds it challenging. "It's neat to have your own system that you can take pride in," he said.

He knows his crew also takes pride in the system by making suggestions for improvement and smoother operations.

Griffin said: "We would like to think of ourselves as experts on the IAPU. We've compiled a large data base, published many external and internal test reports, prequalified the system and are working hard in looking at new technologies for the system."

In addition to taking care of a primary Shuttle system, Griffin takes care of his two sons, wife Victoria and writes science fiction. His latest novel is "The Realm of the Gateway." ■



"It's neat to have your own system that you can take pride in."

- John Griffin

John Griffin (top right photo) is the project leader for the Improved Auxiliary Power Unit (IAPU) at the White Sands Test Facility. The IAPU (center photo) is a hydrazine-fueled gas turbine that serves the Space Shuttle Orbiter. At left, the IAPU undergoes simulated environmental testing.

Ripped from the ROUNDUP

Ripped straight from the pages of old Space News Roundups, here's what happened at JSC on this date:

1 9 7 1

A Rhesus monkey who traveled 53.03 miles into outer space has been presented by the U.S. Air Force School of Aerospace Medicine to the San Antonio Zoo.

Sam, who was named after the School of Aviation Medicine (SAM), was born at Randolph Air Force Base in April 1957, where the school was located.

Sam was trained for his flight at several locations, including the University of Texas at Austin. He made his flight when he was 2 1/2, and weighed only 6 1/2 pounds. Today, at age 14, he weighs 40 pounds.

Col. Evan R. Goltra presented the monkeynaught to the zoo director, Louis DiSabato, in early May.

1 9 8 1

A stronaut Alan Bean, the fourth man to set foot on the moon, will resign from NASA effective June 26 to devote full time to his career as an artist.

Bean said his decision was based on the fact that, in his 18 years as an astronaut, he visited worlds and saw sights no artist's eye has ever viewed firsthand, and he hopes to express these experiences through the medium of art.

Bean was among the third group of astronauts selected by NASA in the fall of 1963. He was the lunar module pilot on Apollo 12, man's second landing on the moon in November 1969. He and Pete Conrad explored the Ocean of Storm, while Dick Gordon circled in the command module.

1 9 9 1

O peration Desert Storm called approximately 12,000 federal government employees to active duty from their jobs, and now, with the conflict in the Middle East over, those individuals are returning to civilian lives.

To help them readapt, the federal government has created a leave bank program that will distribute donated annual leave to the returning reservists, many of whom depleted their own leave accounts when called to active duty.

In the first week, JSC employees donated more than 300 hours. All leave donated throughout the federal government will be pooled and then distributed equally among all federal government employee reservists.

Thirteen employees were called to active duty. Seven have returned, while six are still on active duty.



Celebrate! American Heritage Week begins June 25

By Eric Raub

What does every "Team NASA" community member—including all civil servants, contractors, their friends and family—have in common?

Every one of these people has a heritage, though they may be very different. Also, they are all invited to enjoy the ninth annual American Heritage Week celebration. On Monday, June 25, organizers hope to promote unity and cooperation while celebrating the individual heritage of all people in the NASA community.

American Heritage Week was started eight years ago by the Equal Opportunity Programs Office (EOPO) as an attempt to celebrate

the uniqueness of all cultures at the same time. While the EOPO is also in charge of coordinating events aimed at recognizing specific

groups, they view American Heritage Week as an opportunity for everyone to gather, celebrate their culture and build a stronger sense of community with a better understanding of each other.

"American Heritage Week is a chance to interact multiculturally and turn the spotlight on the many diverse heritages represented in the 'Team NASA' community," said Estella Hernandez Gillette, Director of the EOPO. "This helps us understand each other better, and reinforce the strength, community and partnership we all bring to the common objective of a successful space program."

Of course, American Heritage Week is also a chance to have fun. This year's festivities will include a children's art activity.



Children ages 3-12 are invited to exercise their creativity in making a design reflecting this year's theme: "Working Together, Defying the Laws of the Universe to Make Ideas Happen." Entry forms will be available throughout JSC,

at some contractor locations and on the web. Each entry will be awarded a ribbon.

The weeklong celebration begins with musical performances in the Building 3 cafeteria. Another performance will follow on Thursday, with multicultural exhibits on Tuesday and Wednesday. On Friday the winning children's art will be put on display.

American Heritage Week has always tried to go out with a bang, and this year's celebration promises to be no exception. The Grand Finale Day activities will begin with the opening ceremonies at 3:30 p.m. in the Gilruth Center. Multicultural performances will begin at 4 p.m. in the Alamo Ballroom and continue until 7.

Other activities include astronaut signing in the San Jacinto room and the commercialization trailer out in the parking lot,



showing how technology transfer has sent NASA knowledge and equipment out into the world.

Food and fun go hand in hand at the Grand Finale. Across from the ballroom in the gym there will be hot dogs, popcorn, cotton candy, beer

and soft drinks. Contractors will also have booths to show their business off.

American Heritage Week, like all other events, needs people to help it run smoothly and ensure everyone has a good time. Volunteers are welcome, and organizations wishing to participate can get more information on the event from the EOPO at (281) 483-0601.

For more information on American Heritage Week or the children's art activity, visit: <http://www4.jsc.nasa.gov/EOPO/>



Juneteenth Observation

J. Paul Jr. & the Zydeco Nubreedz

Abraham Lincoln's Emancipation Proclamation, leaving millions of African-American slaves without their freedom. It was on this date the African-American slaves of Texas and other parts of the South celebrated the final implementation of the Emancipation Proclamation, giving them their freedom forever.

The former slaves of Galveston were quick to establish what was to become a tradition for African-American communities across the United States. On the evening of June 19, 1865, thousands flooded the streets of Galveston, rejoicing in their newly announced freedom. The sweet smell of barbecue smoke filled the air. Dancing feet pounded the dirt roads and harmonic voices sung spirituals. This was the day, Juneteenth, that would forever commemorate African American Freedom.

In observation of Juneteenth at JSC,

J. Paul Jr. & the Zydeco Nubreedz will perform Tuesday, June 19, outside by the Building 3 cafeteria from 11:30 a.m. to 1 p.m.

J. Paul Jr. is the self-proclaimed "Zydeco Rebel" and hails from Houston. His five-piece band, Nubreedz, backs him. This group combines the widely diverse elements of funk, rap, gospel, R&B, rock and traditional Cajun. Zydeco is the traditional dance music of the Creole people of Southwest Louisiana. It traces its heritage back to the Caribbean and Cajun influences of Louisiana's black population.

J. Paul Jr. & the Zydeco Nubreedz have a new CD entitled "Who Do You Love?" The release date for this CD will be in August. There will be a few available at the Juneteenth observance.

For more information on J. Paul Jr. & the Zydeco Nubreedz performance dates, their Web site address is www.jpauljr.com. ■



GOOD NEWS

In the spotlight

Three JSC staffers recognized for film and video excellence

By Eric Raub

Every year JSC produces animations, simulations and video segments. Some are instructive while others can be emotional and dramatic. Even though these productions don't come from a Hollywood studio, it doesn't mean they can't win prestigious awards. Three Public Affairs staff members recently received prestigious Telly Awards in recognition of their hard work and professional excellence.

Established in 1980, the Telly Awards showcase outstanding non-network and cable TV commercials. In later years the competition expanded to include film and video productions. Over the past 21 years, the awards have become a well-known, highly respected national competition.

One of the features setting the Telly apart from other awards is that entries are not judged against each other but against a high standard of excellence. The Telly is now one of the most sought-after awards in the TV, commercial and video industry. Winners and finalists have come from agencies, production companies, television stations and cable operations, as well as corporate video departments.

JSC recipients of the 22nd annual Telly Awards statuettes are:

- ❖ John Streeter for "X-38: High Tech, Low Cost Space Rescue and "Robonaut: The Next Step in Robotics"
- ❖ Greg Jurls for "Hubble Space Telescope 10th Anniversary Video"
- ❖ Mark Baird for "Flight Anxiety: Motion Sickness Training" (Baird also received his statuette from a previous winning submission for "Origins")

The staff members accepted their Telly statuettes from Public Affairs Director Daniel Carpenter and acting JSC Director Roy Estess at a ceremony on May 24.

The Telly Awards honored Baird for the third year in a row, while Streeter now holds his fourth statuette after only five submissions. Public Affairs employees have an excellent record overall, garnering 12 statuettes for their last 17 entries over the past five

years. The productions they create are a valuable resource to JSC and the space program.

"These are excellent, high-profile accomplishments. To look at the work that conveys our mission to the public is a wonderful experience," Estess said.

The staff develops scripts, sifts through footage and selects just the right moments and sequences—combined with animations, images, music and sounds—to bring the space program closer to the world. Previous venues for their work range from classrooms to the United Nations Outer Space Committee meeting.

Streeter's Telly Award winning "X-38: High Tech, Low Cost Space Rescue" chronicles the history behind the design of the high-tech Crew Return Vehicle prototype. The piece takes a look at the technologically advanced equipment used to build the 21st Century lifeboat and its giant parafoil. The parafoil is part wing, part parachute and enables the X-38 to gently float to the ground.

Jurls' "Hubble Space Telescope 10th Anniversary Video," also an award-winning segment, uses scenes from all of the telescope shuttle missions as well as images from the telescope. The video captures the emotions of the NASA team as they dealt with the early frustrations to the eventual elation when scientists could finally look farther and

deeper into space than ever before.

Jurls admits the biggest challenge did not come from eliciting emotions from the people and the images, but the telescope itself.

"The Hubble Space Telescope is a great piece of subject matter to work with," Jurls said. "The big challenge was taking the Hubble telescope, which is a piece of hardware, and making an emotional video out of it. That was the fun part."

Baird's finalist video, "Flight Anxiety: Motion Sickness Training," serves a special educational purpose for students whose faces often turn green shortly into their KC-135 flight. The video presents

ways to prevent or minimize motion sickness in a light-hearted fashion. The approach may help students absorb the information so they can fully enjoy the rare experience of weightlessness.

"One of the factors we had to deal with...was that motion sickness is one of those things that gets worse when you think about it," Baird said. "When you start to think, 'Oops, I'm feeling sick' and you start to concentrate on it, and worry about it, it gets worse. To make a serious video would have been counter productive...so that is where the whole comedy aspect originated. Make it light hearted and even, at times, silly. Give them the



NASA JSC 2001e18084 photo by David DeHoyos

Public Affairs Director Dan Carpenter laughs as John Streeter (center) futility attempts to claim his Telly Award prematurely from Acting Center Director Roy Estess.



NASA JSC 2001e18089 photo by David DeHoyos

Three JSC employees recently were awarded coveted Telly Awards. Mark Baird, Greg Jurls and John Streeter were recognized at a special PAO ceremony by Public Affairs Director Dan Carpenter and Acting Center Director Roy Estess. Pictured from left are Carpenter, Baird, Jurls, Streeter and Estess.

information that they need, but don't worry them unnecessarily."

Whatever their purpose or subject matter, none of the videos are the result of a single person's efforts. For example, Brad Sayles did the music and audio work on every video that earned a statuette for the team this year. The winners quickly included these other outstanding staff members in pictures of them holding their awards.

"Even though the Telly Awards went to individuals, it goes without saying, and I know each producer feels this way, that these outstanding video productions were made possible because of the contributions of many people on the TV Production Team," said Eileen Walsh, Media Services TV Production supervisor. "Everyone shares in the successes and accolades." ■

Jay Honeycutt awarded Rotary District 5890's Vocational Excellence Award

Rotary District 5890 (Greater Houston area) recently presented its Outstanding Business Person of the Year award to Jay F. Honeycutt, president of Lockheed Martin Space Operations (LMSO).

District Governor Charlie Clemmons and District Vocational Excellence Award (VEA) Chair Sheila Self presented the award to Honeycutt at their annual Rotary District Assembly. More than 500 Rotarians attended the event at the University of Houston Hilton.

This Rotary recognition is presented annually to a non-Rotarian to recognize the accomplishments and contributions of outstanding business leaders. According to a release provided by Rotary, those recognized are leaders that perpetuate and inspire the values of entrepreneurial spirit, personal integrity and community leadership. They also honor their vocation and community through excellence

in their efforts to truly make a difference for the future.

This award also attempts to gain new contributing members to local Rotary clubs and provides more knowledge about Rotary and vocational scholarships.

Honeycutt received Outstanding Business Person by the Rotary Club of Space Center prior to his nomination being submitted to the Rotary District 5890 VEA Committee. His nomination was among the other award recipients from about 53 other clubs in the district.

Honeycutt received an engraved cut glass award and a vocational scholarship award in his name and Rotary's to help students at local colleges. After the presentation, Clemmons announced Honeycutt as an Honorary Rotarian.

As president of LMSO, Honeycutt has been a significant contributor to the nation's space exploration—both as a high-ranking civil servant for NASA and as an industry

leader representing one of the largest aerospace companies in the world, according to the release.

In his present position, he leads more than 2,500 employees in the Clear Lake Area who play an integral role in support of NASA's human space flight and scientific exploration. In addition, Honeycutt is a member of the advisory board of United Space Alliance, a joint venture owned equally by Lockheed Martin and Boeing.

Prior to joining LMSO in 1997, Honeycutt held several key positions with NASA before retiring as Director of Kennedy Space Center.

During his tenure as Director, the KSC team achieved major process refinements and system improvements that resulted in enhanced safety features, reductions in labor-hour and processing turnaround times, and cost savings.

Prior to his appointment as Director, Honeycutt served as Director of Shuttle

Management and Operations for KSC.

Honeycutt currently chairs JSC's Contractor Safety Forum and served as chairman of the 2000 U.S. Savings Bond Drive for the Greater Houston area. He is an active member of the Clear Lake and greater Houston communities and he encourages LMSO's 2,500 employees to volunteer their time in support of local schools and a number of charitable causes.

He is a board member of the International Brain Injury Foundation, Houston Technology Center, University of Houston-Clear Lake Development and Advisory Council, University of Houston Engineering Leadership Board, Space Center Houston, Texas Space Leadership Council, the International Space University and the Juvenile Diabetes Foundation.

In addition, Honeycutt is an elected Fellow of the American Astronautical Society for his "direct and significant contributions to the field of astronautics." ■